

Caterpillars



Morphology of Lepidoptera

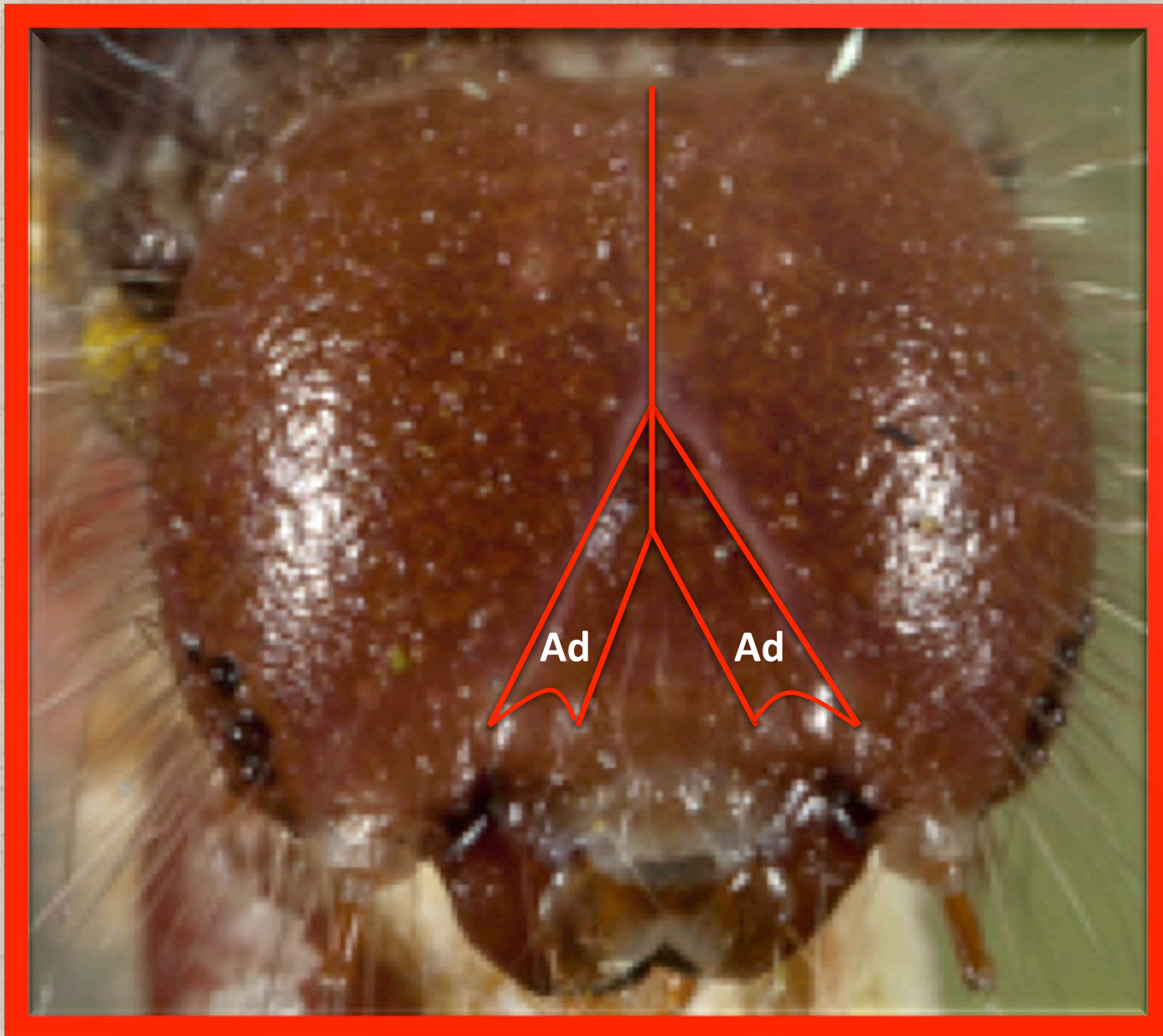
Caterpillars can be distinguished from other immature insects by a combination of the following features:

- Y-shaped suture on head capsule;
- Six stemmata (eyespots) on the head capsule;
- Silk gland on the labium (mouthparts);
- Prolegs on abdominal segments(A3-A6 and A10); or A5, A6, and A10; or A6 and A10;
- Crochets (hooks) on prolegs.



Head

Y-shaped sutures on the head capsule



Adfrontal Area



Eyes

**Six stemmata (eyespots) on the
head capsule**

Prolegs



A3-A6, and A10



**A5, A6, and A10
(Acontiinae, Plusiinae)**



A6, and A10 (Geometridae)



**Slug
(Limacodidae)**



Crochets

Crochets (hooks) on prolegs

Butterflies

Superfamily Papilionoidea

Family **Papilionidae**

Family **Hedylidae**

Family **Hesperiidae**

Family **Pieridae**

Family **Riodinidae**

Family **Lycaenidae**

Family **Nymphalidae**



Family Lycaenidae

Hairstreaks, Blues, Coppers, and Metalmarks

Lycaenidae Characters:

- ❖ Body: Sluglike and somewhat flattened
- ❖ Head: small, retracted into the thorax, except when feeding.
- ❖ Setae: densely covered with short setae (Blues, Coppers, Hairstreaks).

*Metalmarks- very long setae

*ant-tending species have special dorsal glands



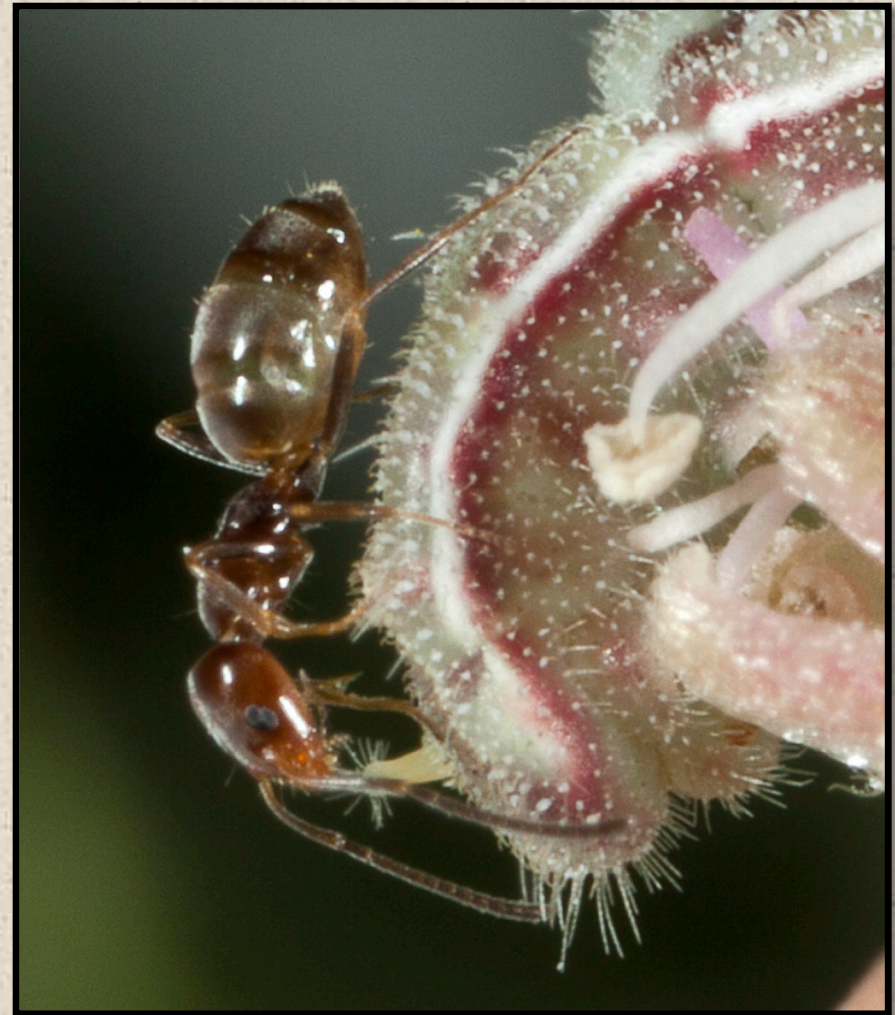
Tending Ants



Tending Ants



Everted dorsal glands (*nectary gland*).



Family Zygaenidae

Smoky Moths

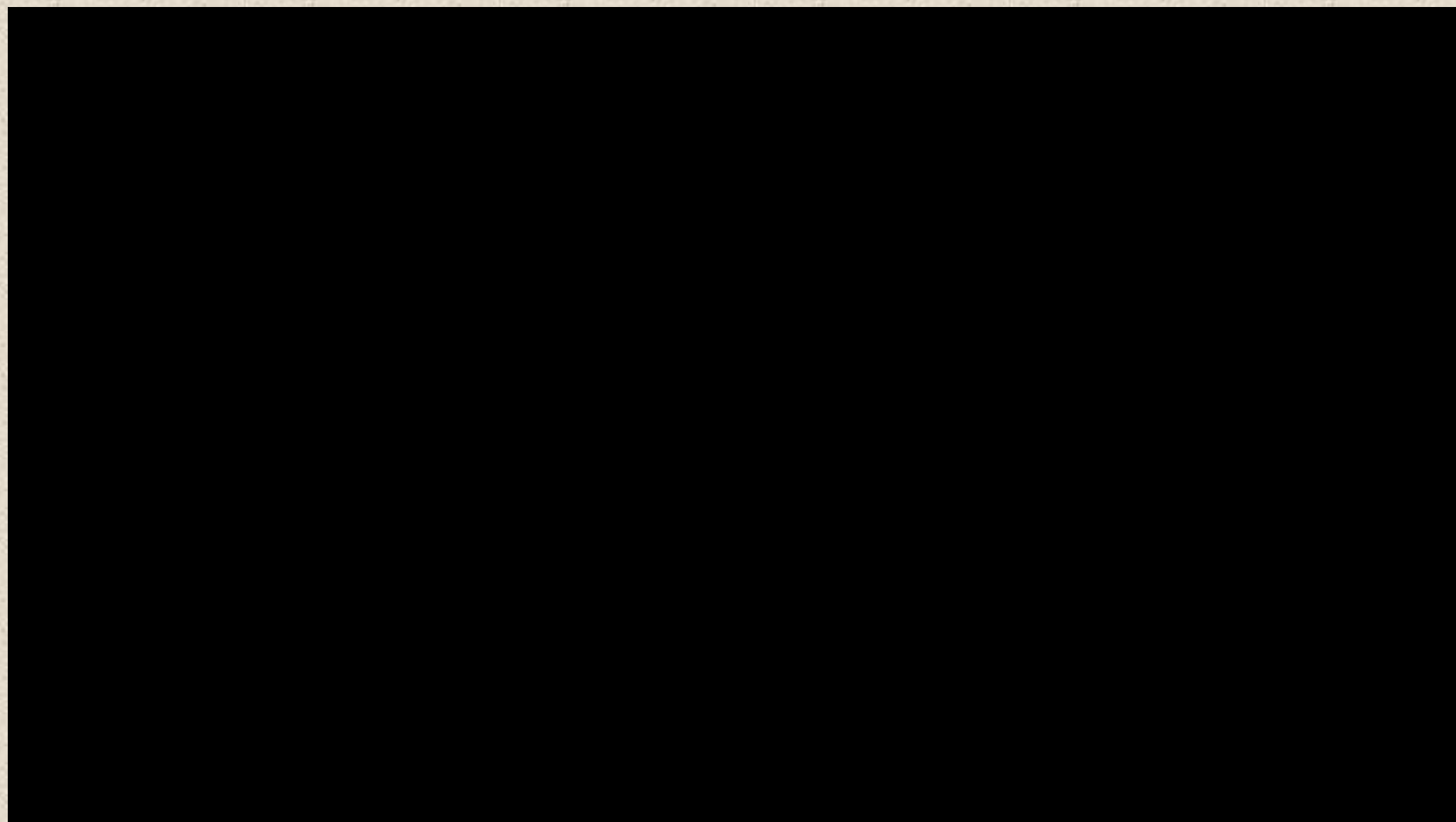
Zygaenidae Characters:

- ❖ Mostly stout, flat Body
- ❖ Head partially covered by prothorax segment.
- ❖ Setae stinging
- ❖ Crochets one size, in a single band.
- ❖ A10 with tufts of setae on anal plate. [VIDEO](#)

Possible Chiricahua species:

- *Neoprocris* sp. on black cherry, SWRS





[REDACTED]

Family Zygaenidae

Smoky Moths



Body: Stout & flat



Head: partially covered prothorax segment

Both Lycaenid?



Both Lycaenid?



Family Limacodidae

Slug Moths

Characters:

- ❖ slug-like movement
- ❖ Head partially covered by prothorax segment.
- ❖ Setae stinging (some species)
- ❖ A1-A7 prolegs modified into single, suckerlike lobes

Possible Chiricahua species:

Prolimacodes trigona, *Parasa chloris*,
Euclea obliqua



Family Limacodidae
Slug Moths at SWRS



Euclea obliqua



Prolimacodes trigona

Family Dalceridae

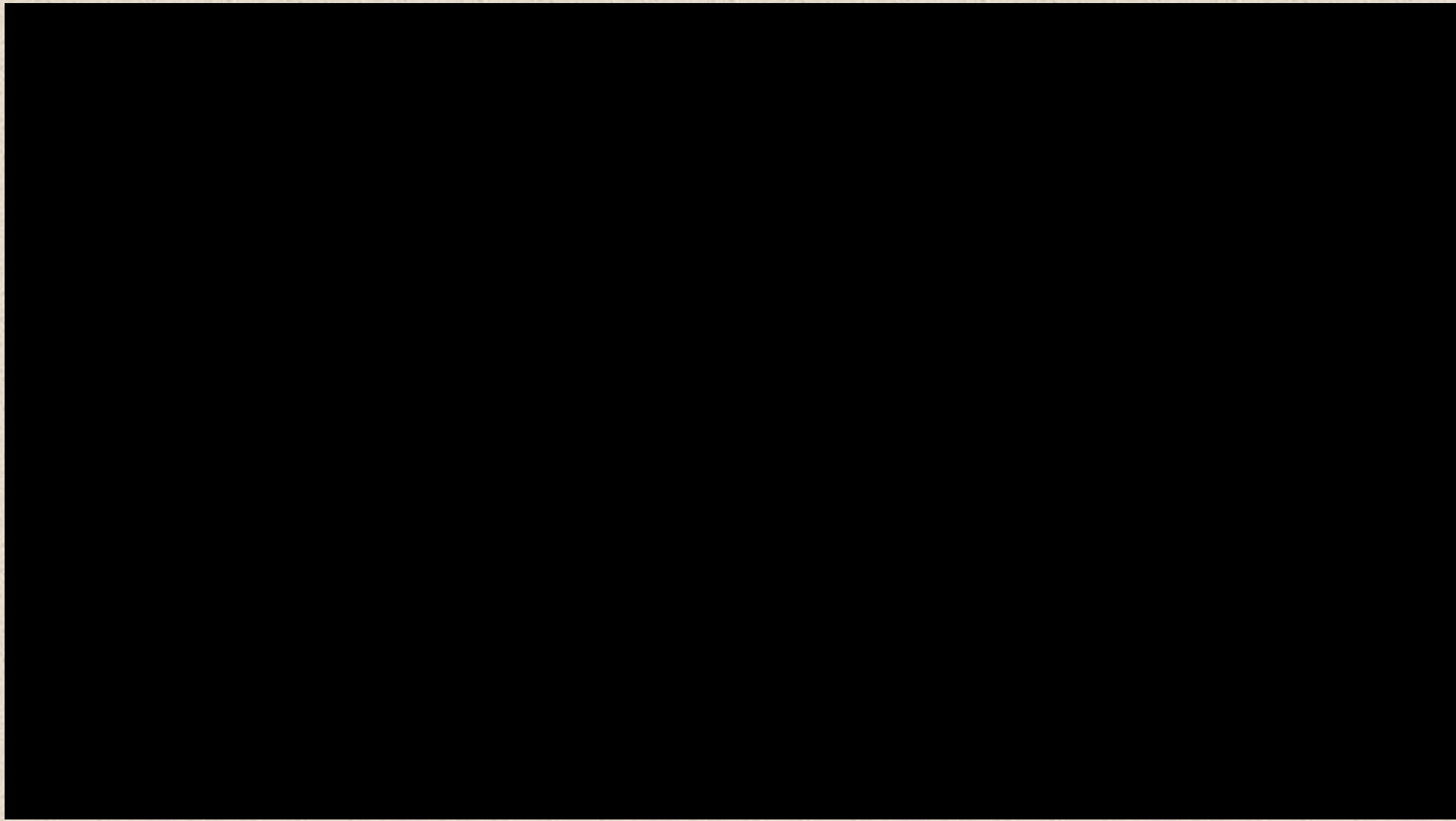
Characters:

- ❖ Slug-like movement
- ❖ Head partially covered by prothorax segment.
- ❖ Jelly-tubercles that Dislodge
- ❖ A2-A7 crochets during last instar

Possible Chiricahua species:

Dalcerides ingenuus





Family Megalopygidae

Flannel Moths

Megalopygidae Characters:

- ❖ **Prolegs:** Accessory prolegs on abdominal segments A2 and A7, normal complement on A3-A6.
- ❖ **Setae:** mixtures of stinging and longer hairlike setae.
- ❖ **Fleshy lobe** positioned behind each of the spiracles.

Possible Chiricahua species:

Norape tenera

(look on the Hackberry & Acacia!)





Megalopyge bisessa, Penultimate

Setae: mixtures of stinging and longer hairlike setae



Prepupal Larvae showing lobe positioned behind each of the spiracles.

Family Lasiocampidae

Tent Caterpillars & Lappet Moths

Lasiocampidae Characters:

- ❖ **Setae:** Abundance of long setae, mostly along sides of the body and head.
- ❖ **Setae:** never barbed or plumed.
- ❖ **Body:** Most are flattened with fleshy lateral lappets.
- ❖ All have a fleshy “anal point” between the prolegs on A10, below the anus.

Possible Chiricahua species:

Gloveria (on oak)



Gloveria medusa editha



Family Lasiocampidae

Tent Caterpillars & Lappet Moths



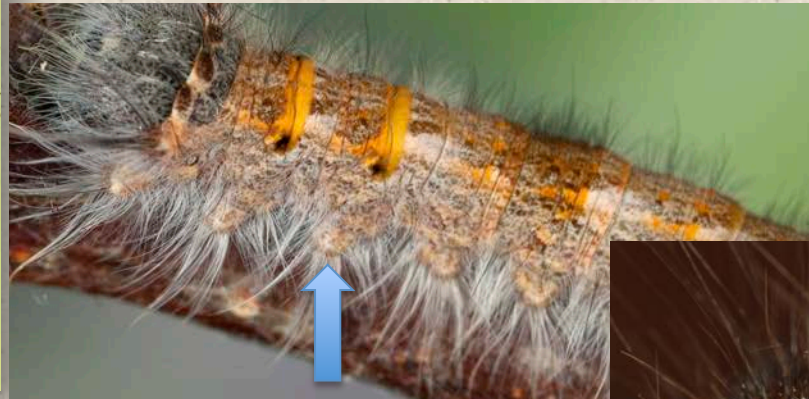
Apetolype sp.

Some may have scale like setae



Apetolype sp.

Body: Most are flattened



Lappets on all segments.



**Fleshy “anal point”
between the anal prolegs**



Malacosoma sp.

Family Apatelodidae

True Silkworm and Apatelodine

Apatelodidae Characters:

- ❖ **Setae:** densely covered setae.
- ❖ **Setae:** prominent middorsal lashes. Setae on T2, T3, A8 longest.
- ❖ **Prolegs:** comparatively long prolegs.
- ❖ **Head:** bears numerous short secondary setae.
- ❖ **Crochets:** two lengths arranged in an ellipse.

Possible Chiricahua species:

Apetalodes pudefacta



Apetalodes pudefacta

Family Saturniidae

Giant Silkworms and Royal Moths

Saturniidae Characters:

- ❖ Body: Large and robust
- ❖ Setae: secondary setae, especially above prolegs.
- ❖ Setae: Primary setae often modified as knobs, horn, or branched spines.
- ❖ Head: mostly smooth/shiny.
- ❖ Many with head partially drawn into the thorax.



Family Saturniidae



Coloradia pandora

Body: Large to enormous, robust



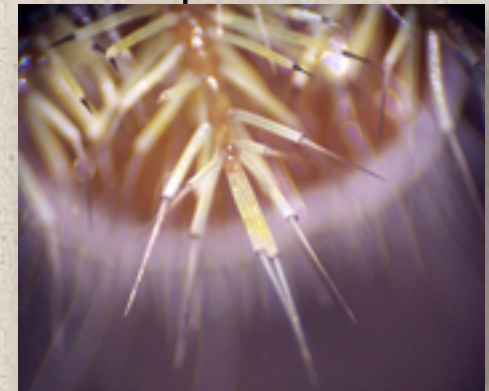
Hemileuca eglanterna

Head: mostly smooth/shiny.



Automeris zephyria

Setae: Primary setae often modified as knobs, horn, or branched spines.



Setae: some with urticating setae

Family Sphingidae

Hornworms

Sphingidae Characters:

- ❖ **Body:** Large, cylindrical, usually possess a middorsal horn, eyespot, or hardened button over A8.
- ❖ **Setae:** absent or inconspicuous, except above prolegs.
- ❖ **Prolegs:** anal prolegs are laterally flattened.
- ❖ **Crochets:** two lengths are arranged in series paralleling the body axis.
- ❖ **Color:** many found in both a green and brown form.

Possible Chiricahua species:

Eumorpha on grape





Body: - usually possess a middorsal horn, eyespot, or hardened button over A8.



Prolegs: anal prolegs are laterally flattened.

Family Geometridae

Loopers, Inchworms, Spanworms

Geometridae Characters:

- ❖ **Body:** elongate, somewhat cylindrical. Some with warts and knobs.
- ❖ **Prolegs:** most only have two pairs of prolegs (A6 and A10).
- ❖ **Prolegs:** a few with more than two pairs, but reduced in sized (A3-A5, or just A5).
- ❖ **Color:** most are cryptically colored in greens and browns.

-all geometers loop when they move.

Possible Chiricahua species:

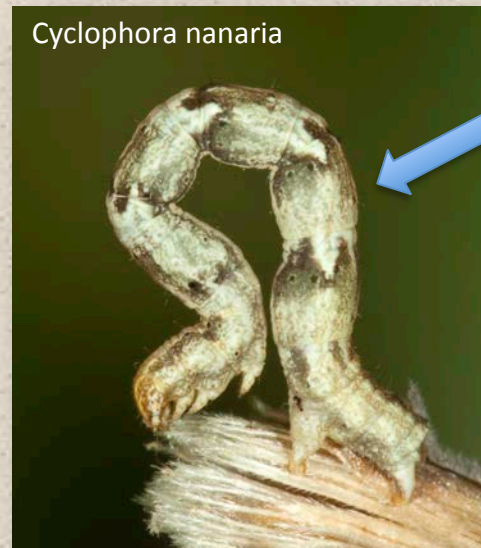


Family Geometridae



A6 & A10 prolegs

Prolegs: only two pairs of prolegs: **A6** and **A10**.



Looping behavior



Body: Some with warts and knobs.



Body: Projections over the dorsum allow larvae to attach plant parts.



Melemaea virgata



Meris sp.



Family Notodontidae

Notodontidae Characters:

- ❖ **Body:** stout
- ❖ **Head:** proportionately large.
- ❖ **Prolegs:** anal prolegs are **modified**, noticeably larger or smaller than those of the midabdominal segments.
- ❖ **Crochets:** arranged in a single row parallel to the body axis.

Possible Chiricahua species:

Afilia oslari



Oligocentria alpica



Clostera sp.



Oligocentria lignicolor

Body Position

Anal prolegs up





Strong mandibles

Chemical Ecology



Formic acid droplets

Ventral Gland

- Ventral gland, non-everted



- Ventral gland, everted



To squirt formic acid.....

Ventral Gland

(side view, gland everted)



Cryptic Behavior

Coloration against plant stems & branches





Afilia oslari (on mesquite)



Heterocampa nr. subrotata

Modified Anal prolegs & Head Position



Datana sp.



Macrurocampa sp.

Family Nolidae

Nolidae Characters:

- ❖ **Body:** 20mm or less in size
- ❖ **Prolegs:** A3 prolegs absent
- ❖ **Setae:** Primary setae obscured by tufts of secondary setae.
- ❖ **Setae:** Secondary setae above the spiracles.

**mature larvae resemble arctiidae*

Possible Chiricahua species:

- *Nola*
- *Meganola*



Family Nolidae

Primary setae
obscured by tufts of
secondary setae.



A3 prolegs absent

Compare

(tiger moth, Nolid larvae,
Zygaenid larvae)



Subfamily Acronictinae



Subfamily Plusiinae



Prolegs for loopers: A5, A6, and A10



Subfamily Oncocnemidinae



[VIDEO](#)

SYMPISTIS WIGGLE



Subfamily Amphipyrinae
Tribe Stiriini



Subfamily Acontiinae

Prolegs for loopers: A5, A6, and A10



The End

Photos/Videos by Jennifer Bundy